

Date: Friday, 12/09/2008 9:00:23 AM  
 User: Julie Lecocq

## Process Sheet

<b>Customer</b> :	CU-DAR001 Dart Helicopters Services	<b>Drawing Name</b> :	206L AFT X-TUBE
<b>Job Number</b> :	42000		
<b>Estimate Number</b> :	13222		
<b>P.O. Number</b> :		<b>Part Number</b> :	D206667203TRN
<b>This Issue</b> :	12/09/2008	<b>S.O. No.</b> :	
<b>Prsht Rev.</b> :	NC	<b>Drawing Number</b> :	D206-667-243 REV B
<b>First Issue</b> :	/ /	<b>Project Number</b> :	N/A
<b>Previous Run</b> :	41999	<b>Drawing Revision</b> :	B
	<b>Type</b> :	<b>Material</b> :	
	CROSSTUBES	<b>Due Date</b> :	19/09/2008
<b>Written By</b> :		<b>Qty:</b>	1
<b>Checked &amp; Approved By</b> :	<u>Julie Lecocq</u>	<b>Um:</b>	Each
<b>Comment</b> :	Est Rev:A 08-03-06 new issue DD verified by:ec Est Rev B 08.04.02 Removed polish EC verified by: DD		

## Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0	D6004115	Crosstube Material
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**Comment:** Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Pick:

Qty Part number Description Batch

1 D6004-115 Crosstube 334685

Check OD = 2.500"; ID = 1.800"

a.m 08.09.23

2.0	MORI SEIKI	MORI SEIKI CNC LATHE LARGE
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**Comment:** Setup: 0.00Hrs/ Run: 0.0000Min Total Run : 0.0000Hrs

MORI SEIKI CNC LATHE LARGE

1-Fill tube with sand &amp; install plugs DT8534 on both ends as per Folio FA089

2-Turn first side as per Folio FA089

3-File down transition lines smooth.

a.m 08.09.23

3.0	QC1	INSPECT ALL DIM TO DIM SHEET
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**Comment:** Setup: 0.00Hrs/ Run: 0.0000Hrs Total Run : 0.0000Hrs

INSPECT ALL DIM TO DIM SHEET

a.m 08.09.23

4.0	MORI SEIKI	MORI SEIKI CNC LATHE LARGE
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**Comment:** Setup: 0.00Hrs/ Run: 0.0000Min Total Run : 0.0000Hrs

MORI SEIKI CNC LATHE LARGE

1-Turn second side as per Folio FA089

a.m 08.09.23

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Date: Friday, 12/09/2008 9:00:23 AM  
User: Julie Lecocq

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 206L AFT X-TUBE

Job Number: 42000

Part Number: D206667203TRN

Job Number:



Seq. #:

Machine Or Operation:

Description :

2-File down transition lines smooth.

3-Remove sand and plugs

*Q-m 08.09.23 (2)*

5.0

QC1

INSPECT ALL DIM TO DIM SHEET



Comment: Setup: 0.00Hrs/ Run: 0.0000Hrs Total Run : 0.0000Hrs  
INSPECT ALL DIM TO DIM SHEET

*Q-m 08.09.23 (2)*

6.0

QC8

SECOND CHECK



Comment: Setup: 0.00Hrs/ Run: 0.0000Hrs Total Run : 0.0000Hrs  
SECOND CHECK

*AWM 8-9-23*

7.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: Setup: 0.00Hrs/ Run: 0.0000Min Total Run : 0.0000Hrs  
HAND FINISHING RESOURCE #1  
Chemical Conversion Coat as per QSI 005 4.1

*AWM 8-9-24*

8.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: Setup: 0.00Hrs/ Run: 0.0000Hrs Total Run : 0.0000Hrs  
INSPECT POWDER COAT/CHEMICAL CONVERSION

*D H 8-9-24*

9.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: Setup: 0.00Hrs/ Run: 0.0000Min Total Run : 0.0000Hrs  
PACKAGING RESOURCE #1  
Identify and Stock in kanban rack  
Location: *X-TUBE CELL*

*AWM 8-9-24*

10.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: Setup: 0.00Hrs/ Run: 0.0000Hrs Total Run : 0.0000Hrs  
FINAL INSPECTION/W/O RELEASE

*08/09/26 HJ*

Job Completion



*W 08.09.25*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

<b>DART AEROSPACE LTD</b>	<b>Work Order:</b> 42000
<b>Description:</b> Crosstube Assembly	<b>Part Number:</b> D206-667-243
<b>Inspection Dwg:</b> D206-667-243 <b>Rev:</b> B	<b>Page 1 of 1</b>

### FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article
 ☐ Prototype

Inspection Sheet Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
SIDE A	2.490	+0.005/-0.000	2.493	/		
	2.018	+0.005/-0.000	2.023	/		
	2.079	+0.005/-0.000	2.084	/		
	2.145	+0.005/-0.000	2.150	/		
	2.209	+0.005/-0.000	2.214	/		
	2.287	+0.005/-0.000	2.292	/		
	2.363	+0.005/-0.000	2.368	/		
	2.433	+0.005/-0.000	2.438	/		
	0.200	+/-0.010	0.200	/		
	0.500 x 30°	+/-0.010	0.500x30°	/		
	R0.063	+/-0.010	R0.063	/		
	R0.500	+/-0.010	R0.500	/		
	4.438	+/-0.030	4.438	/		
SIDE B	104.91	+/-0.020	104.910	/		
	2.490	+0.005/-0.000	2.493	/		
	2.018	+0.005/-0.000	2.023	/		
	2.079	+0.005/-0.000	2.084	/		
	2.145	+0.005/-0.000	2.150	/		
	2.209	+0.005/-0.000	2.214	/		
	2.287	+0.005/-0.000	2.292	/		
	2.363	+0.005/-0.000	2.368	/		
	2.433	+0.005/-0.000	2.438	/		
	0.200	+/-0.010	0.200	/		
	0.500 x 30°	+/-0.010	0.500x30°	/		
	R0.063	+/-0.010	R0.063	/		
	R0.500	+/-0.010	R0.500	/		
	4.438	+/-0.030	4.438	/		

<b>Measured by:</b> G.M	<b>Audited by:</b> ALM	<b>Prototype Approval:</b>	N/A
<b>Date:</b> 09.09.23	<b>Date:</b> 8-9-24	<b>Date:</b>	N/A
<b>Rev</b>	<b>Date</b>	<b>Change</b>	<b>Revised by</b>
A	06.09.01	New Issue (P/O D206-667-203)	KJ/JLM
			<b>Approved</b>



DESIGN PH	DRAWN BY PH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED # DS	APPROVED # DS	DRAWING NO. D206-667-243	REV. B SHEET 1 OF 3
DATE 05.07.26		TITLE CROSSTUBE ASS'Y (206L HIGH AFT)	SCALE NTS
A	00.11.17	NEW ISSUE	
B	05.07.26	ADD HOLES AND NUT PLATES FOR COMPATABILITY WITH BHT/AA SKIDTUBES	

RELEASED  
05-07-26

PH 01.09.16  
**UNDER REVIEW**  
06.03.10 RH  
RETURN Detail F

Qty	Part Number	Description
X	D206-667-243	CROSSTUBE ASSEMBLY
1	D6004-115	CROSSTUBE
2	D2856-400-773	ABRASION STRIP
2	D2873-043	NUT PLATE
2	D2873-045	NUT PLATE
2	D2892-1	SUPPORT
14	MS20601AD4W10	RIVET (OR NAS9302B-4-10)
4	MS21920-22	CLAMP

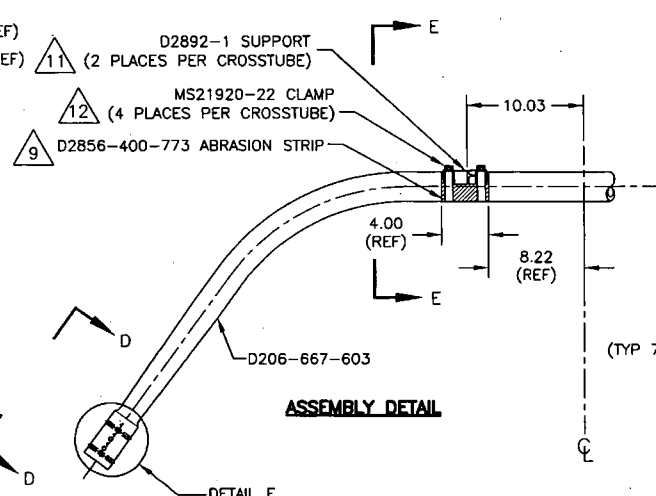
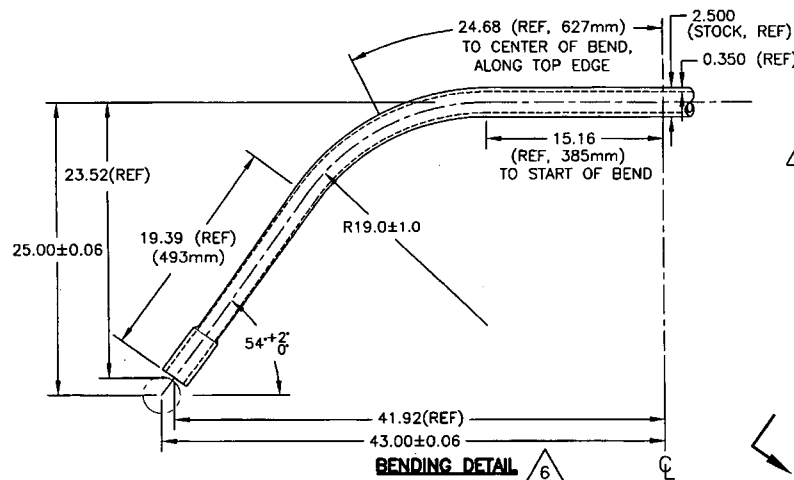
#### GENERAL NOTES:

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 2) MATERIAL: MANUFACTURED FROM D6004-115  
FINISHED LENGTH =  $104.91 \pm 0.020$
- 3) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2  
PAINT OUTSIDE PER DART QSI 005 4.2
- 4) PART IS SYMMETRIC ABOUT CENTERLINE.
- 5) RUN-OFF PART. BLEND OUT EDGE LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH.
- 6) BEND PROGRESSIVELY WITH A MINIMUM OF 8 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- 7) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 8) SCRIBE DART PART NUMBER AND BATCH NUMBER IN THIS AREA WITH VIBRATING STYLUS.
- 9) INSTALL D2856-400-773 ABRASION STRIP WITH A 0.13 (REF) GAP ON BOTTOM SIDE OF CROSSTUBE, CENTERED OPPOSITE D2892-1 SUPPORT, PER QSI 035.
- 10) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 11) IT IS OPTIONAL TO SEAL EDGES OF SUPPORTS AND ABRASION STRIP USING SIKAFLEX-WITHOUT NOTICE 241/291 SEALANT.
- 12) TORQUE CLAMPS 80 TO 100 IN-LB.

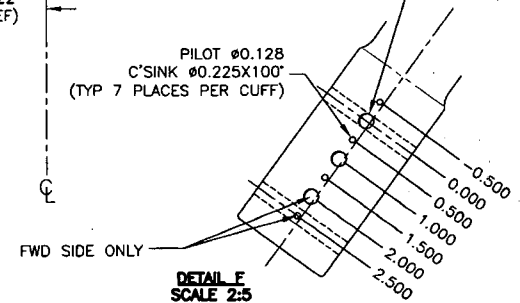
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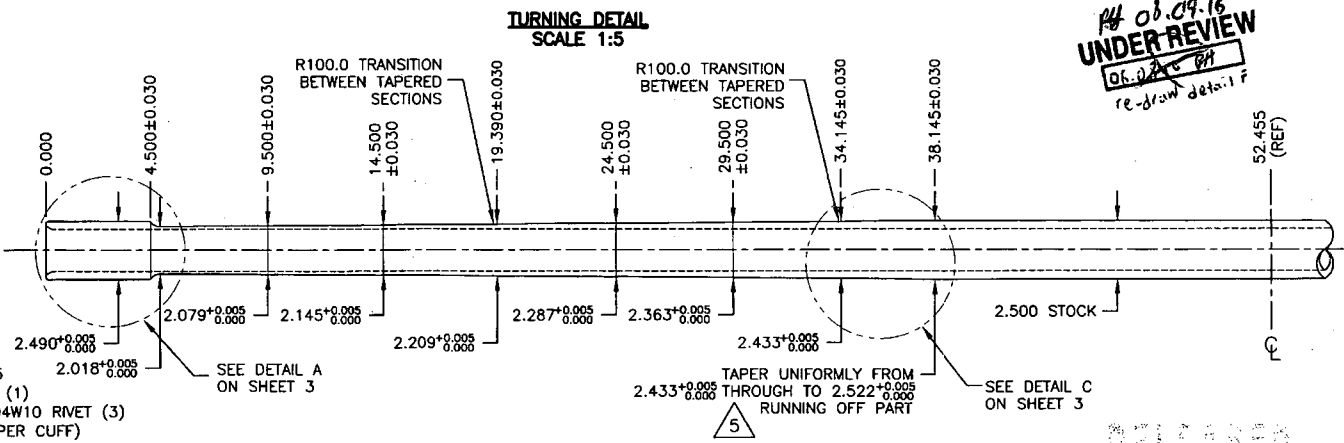
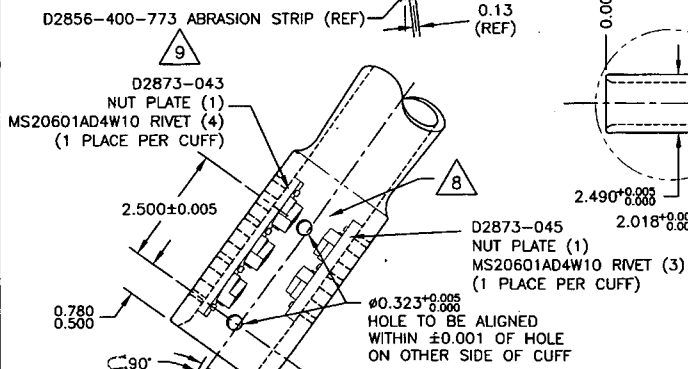
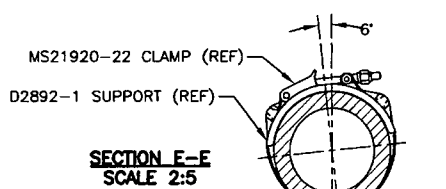
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△ B  $\phi 0.323^{+0.005}_{-0.000}$   
(TYP 5 PLACES PER CUFF)  
HOLE TO BE ALIGNED WITHIN  $\pm 0.001$  OF HOLE ON OTHER SIDE OF CUFF



PH 08.09.16  
**UNDER REVIEW**  
OK 02.05.01  
re-draw detail F

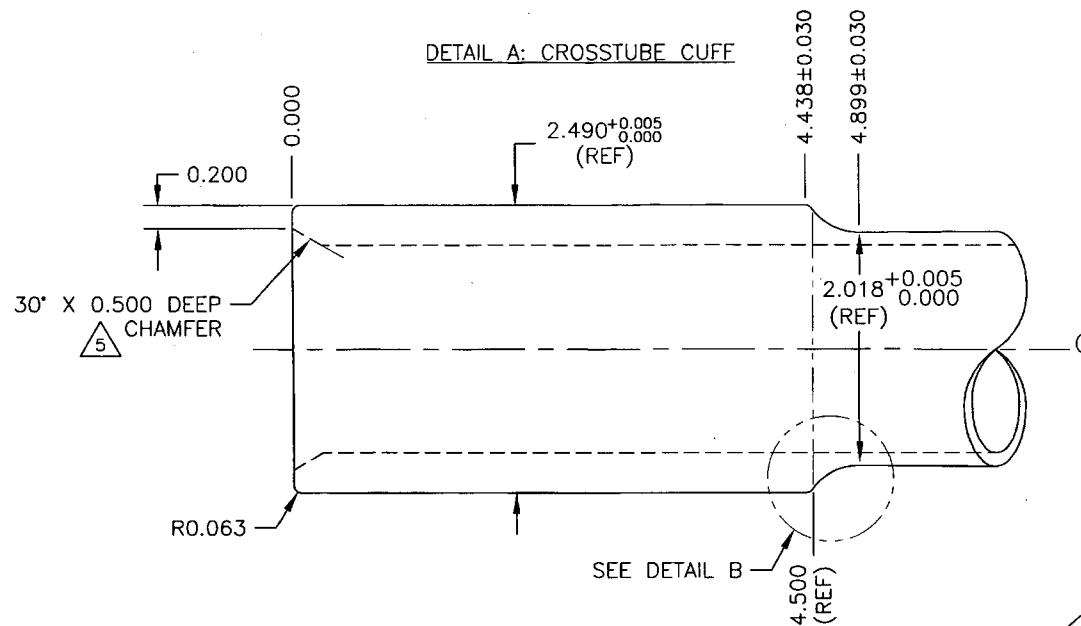


05.07.26

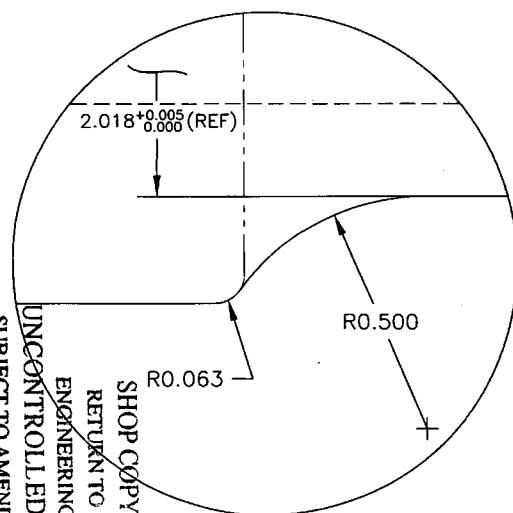
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	PH	PH			
	CHECKED	APPROVED	DRAWING NO.	REV. B	
	DATE		D206-667-243	SHEET 2 OF 3	
	05.07.26		CROSSTUBE ASS'Y (206L HIGH AFT)	SCALE 1:10	

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# DETAIL A: CROSSTUBE CUFF

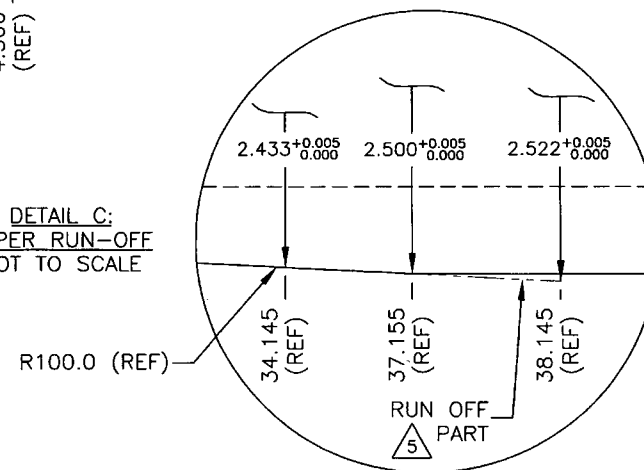


01.09.16  
UNDER REVIEW  
06.03.16 PH  
re-draw detail i



DETAIL B: CUFF  
TRANSITION  
SCALE 4:1

## DETAIL C: TAPER RUN-OFF NOT TO SCALE



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DESIGN PH  
DRAWN BY PH  
CHECKED DS  
APPROVED DS  
DATE 05.07.26

**DART** DART AEROSPACE LTD.  
HARRISBURG, ONTARIO, CANADA

DRAWING NO. D206-667-243  
TITLE CROSSTUBE ASS'Y (206L HIGH AFT)  
REV. B SHEET 3 OF 3  
SCALE 1:1

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